No. 200000291

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

DEKALB Genetics Corporation

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE , OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CORN, FIELD

'87ATD2'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this second day of May, in the year two thousand two.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions* — Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1 NAME OF OWNER
DEKALB Genetics Corporation

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME

3. VARIETY NAME
87ATD2

4 ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
3100 Sycamore Road
DeKalb, IL 60115

5. TELEPHONE *(include area code)*
(815) 758-9281

6. FAX *(include area code)*
(815) 758-3117

FOR OFFICIAL USE ONLY

PVPO NUMBER
20000291

FILING DATE
7/17/00

7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*
Corporation

8. IF INCORPORATED, GIVE STATE OF INCORPORATION
Delaware

9. DATE OF INCORPORATION
June 15, 1988

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*

Timothy R. Kain
DEKALB Genetics Corporation
3100 Sycamore Road
DeKalb, Il 60115

Donald Traut
DEKALB Genetics Corporation
3100 Sycamore Road
DeKalb, IL 60115

FEES RECEIVED

FILING AND EXAMINATION FEES:
$ 2450.00
DATE 6-8-00

CERTIFICATION FEE:
$ 320.00
DATE 4/5/02

11. TELEPHONE *(Include area code)*
(815) 758-9281

12. FAX *(Include area code)*
(815) 758-3117

13. E_MAIL
tkain@dekalb.com

14. CROP KIND *(Common Name)*
Corn

15 GENUS AND SPECIES NAME OF CROP
Zea mays

16. FAMILY NAME *(Botanical)*
Gramineae

17. IS THE VARIETY A FIRST GENERATION HYBRID?
☐ YES ☒ NO

18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)

a. ☒ Exhibit A. Origin and Breeding History of the Variety
b. ☒ Exhibit B. Statement of Distinctness
c. ☒ Exhibit C. Objective Description of Variety
d. ☐ Exhibit D. Additional Description of the Variety *(Optional)*
e. ☒ Exhibit E. Statement of the Basis of the Owner's Ownership
f. ☒ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)*
g. ☒ Filing and Examination Fee ($2,450), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? *See Section 83(a) of the Plant Variety Protection Act)*
☐ YES *(If "yes", answer items 20 and 21 below)* ☒ NO *(If "no," go to item 22)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ YES ☐ NO

21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?
☒ YES U.S. February 2000 ☐ NO
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. *(Please use space indicated on reverse.)*

23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?
☐ YES ☒ NO
IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. *(Please use space indicated on reverse.)*

24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER		SIGNATURE OF OWNER	
Timothy R. Kain			
NAME *(Please print or type)*		NAME *(Please print or type)*	
Timothy R. Kain			
CAPACITY OR TITLE	DATE	CAPACITY OR TITLE	DATE
Patent Scientist	6/6/00		

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable *(in the sense that it will reproduce an entire plant)* tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for $2,450 ($300 filing fee and $2,150 examination fee), payable to "Treasurer of the United States" *(See Section 97.6 of the Regulations and Rules of Practice.)* Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of $300 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office
Telephone: (301) 504-5518
FAX: (301) 504-5291
Homepage: http://www.ams.usda.gov/science/pvp.htm

ITEM

18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified

18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:

(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness

18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.

18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

19. If "Yes" is specified *(seed of this variety be sold by variety name only, as a class of certified seed)*, the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. *(See Regulations and Rules of Practice, Section 97.103).*

22. *See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.*

23. *See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.*

22. CONTINUED FROM FRONT *(Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)*

A hybrid produced from this variety was first sold in the United States - February 2000

23. CONTINUED FROM FRONT *(Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)*

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. *(See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)*

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center–East, Beltsville, MD 20705. Telephone: (301) 504-8089.

S&T-470 (6-98) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (03-96) which is obsolete.

EXHIBIT A

Origin and Breeding History
87ATD2

87ATD2 was selected for high yield in hybrid combination.

Winter 1989-90	The inbreds LH119 (a proprietary inbred of Holden Foundation Seeds) and * S1067A (a proprietary DEKALB Genetic Corporation inbred) were crossed. Nursery rows E120 and E154.
Spring 1990	S0 seed was grown and crossed to FBLA (a proprietary DEKALB Genetic Corporation inbred) Nursery row 9038 and 9039
Summer 1990	S1 seed of the three way was grown (nursery population # 9038) and self-pollinated.
Winter 1990-91	S2 seed was grown in bulk and self-pollinated (nursery rows 74:120-137).
Summer 1991	S3 seed was grown ear to row and self-pollinated (nursery row 214:79).
Winter 1991-92	S4 seed was grown ear to row and self-pollinated (nursery row C15:31).
Summer 1992	S5 seed was grown ear to row and self-pollinated (nursery row 410:29).
Summer 1993	S6 seed was grown ear to row and self then bulked (nursery rows 340:46-37). Seed from these rows was named 87ATD2.

Statement of Stability and Uniformity

Corn inbred 87ATD2 was coded in 1993 and has been reproduced by self pollination for the past four years and judged to be stable. Inbred 87ATD2 is uniform for all traits observed.

Statement of Variants

87ATD2 shows no variants other than what would normally be expected due to environment or that would occur for almost any character during the course of repeated sexual reproduction.

JMS 2/28/02

Line S1067A is descended from the public lines B14 and SD5 - a line developed by the University of South Dakota.

EXHIBIT B

Statement of Distinctness

DEKALB Genetics Corporation believes that 87ATD2 is most similar to corn inbred 87DIA4, an inbred developed by DEKALB Genetics Corporation.

87ATD2 and 87DIA4 differ most significantly in the following traits:

Quantitative Traits:

Trait	87ATD2	Std. Dev.	87DIA4	Std. Dev.	Difference	Pvalue
Plant Height (cm)	194.5	16.8 (N=40)	175.2	17.1 (N=50)	19.3	0.00**
GDU's to 50% Shed	1310.3	-	1363.1	-	-52.9	0.00**
GDU's to 50% Silk	1283.8	-	1357.1	-	-73.4	0.00**

Significance levels, indicated as follows: + = 10 %, * = 5 %, ** = 1 %.

Qualitative Traits:

Trait	87ATD2	87DIA4
Sheath Anthocyanin	Absent	Weak
Anther Color	Green-Yellow 2.5 GY 8/6	Pink 2.5 R 7/6
Silk Color	Red 2.5 R 5/8	Pink 2.5 R 7/6
Ear Position	Pendant	Upright

Differences between 87ATD2 and ND408 (North Dakota Agricultural Experiment Station variety):

Trait	87ATD2 (mean)	Std. Dev.	Min.- Max.	ND408
Kernel Row Number	12.8	0.825	12-14	16-18 (range)
Weight 1000 kernels	247.75	8.057	243-258	194

FORM SD-470-28
(9-1-92)

EXHIBIT C
(Corn; Maize)

United States Department of Agriculture, Agricultural Marketing Service
Science Division, Plant Variety Protection Office
National Agricultural Library Building, Room 500
Beltsville, MD 20705

OBJECTIVE DESCRIPTION OF VARIETY
CORN (*Zea mays* L.)

Name of Applicant(s)	Variety Seed Source	Variety Name or Temporary Designation
DEKALB Genetics Corporation		87ATD2
Address (Street & No., or R.F.D. No., City, State, Zip Code and Country)		**FOR OFFICIAL USE**
3100 Sycamore Road, DeKalb, IL, 60115, U.S.A.		PVPO Number 2000 0 0291

Place the appropriate number that describes the varietal characters typical of this inbred variety in the spaces below. Right justify whole numbers by adding leading zeroes if necessary. Completeness should be striven for to establish an adequate variety description. Traits designated by a '*' are considered necessary for an adequate variety description and must be completed.

COLOR CHOICES (Use in conjunction with Munsell color code to describe all color choices; describe #25 and #26 in Comments section):

01=Light Green	06=Pale Yellow	11=Pink	16=Pale Purple	21=Buff
02=Medium Green	07=Yellow	12=Light Red	17=Purple	22=Tan
03=Dark Green	08=Yellow-Orange	13=Cherry Red	18=Colorless	23=Brown
04=Very Dark Green	09=Salmon	14=Red	19=White	24=Bronze
05=Green-Yellow	10=Pink-Orange	15=Red & White	20=White Capped	25=Variegated (Describe)
				26=Other (Describe)

STANDARD INBRED CHOICES (Use the **most similar** (in background and maturity) of these to make comparisons based on **grow-out trial data**):

Yellow Dent Families: Family	Members	Yellow Dent (Unrelated):	Sweet Corn:
		Co109, ND246,	C13, Iowa5125, P39, 2132
B14	CM105, A632, B64, B68	Oh7, T232	
B37	B37, B76, H84	W117, W153R	Popcorn:
B73	N192, A679, B73, NC268	W182BN	SG1533, 4722, HP301, HP7211
C103	Mo17, Va102, Va35, A682		
Oh43	A619, MS71, H99, Va26	White Dent:	Pipecorn:
WF9	W64A, A554, A654, Pa91	CI66, H105, Ky228	Mo15W, Mo16W, Mo24W

1. TYPE: (describe intermediate types in Comments section)

* 2 1=Sweet 2=Dent 3=Flint 4=Flour 5=Pop 6=Ornamental 7=Pipecorn

2 Standard Inbred Name CM105

2. REGION WHERE DEVELOPED IN THE U.S.A.:

* 2 1=Northwest 2=Northcentral 3=Northeast 4=Southeast 5=Southcentral 6=Southwest 7=Other _____

2 Standard Seed Source NCRPIS

3. MATURITY (In Region Best Adaptability; show Heat Unit formula in "Comments" section):

	DAYS	HEAT UNITS		DAYS	HEAT UNITS
*	062	1248.5	From emergence to 50% of plants in silk	068	1339.0
*	064	1283.3	From emergence to 50% of plants in pollen	065	1306.0
	___	____._	From 10% to 90% pollen shed	___	____._
(*)	___	____._	From 50% silk to optimum edible quality	___	____._
	___	____._	From 50% silk to harvest at 25% moisture	050	1252.0

4. PLANT:	Standard Deviation	Sample Size		Standard Deviation	Sample Size
* 195 cm Plant Height (to tassel tip)	16.800	40	169.1	14.760	220
* 053 cm Ear Height (to base of top ear node)	6.604	20	055.8	11.200	220
014 cm Length of Top Ear Internode	3.470	20	011.2		
Average Number of Tillers					
* 1.2 Average Number of Ears per Stalk	0.3000	20	001.1	0.115	220
3 Anthocyanin of Brace Roots: 1=Absent 2=Faint 3=Moderate 4=Dark			3		

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Application Variety Data	Page 2		Standard Inbred Data		
5. LEAF:	Standard Deviation	Sample Size		Standard Deviation	Sample Size
* 0 0 8. 4 cm Width of Ear Node Leaf	0.356	20	0 0 7. 4	0.569	220
* 0 6 2. 9 cm Length of Ear Node Leaf	1.445	20	0 7 3. 6	5.743	220
* 5. 3 Number of leaves above top ear	0.200	10	5. 6	0.420	110
4 2. 9 degrees Leaf Angle (measure from 2nd leaf above ear at anthesis to stalk above leaf)	7.751	20	3 8. 0	8.620	220
* 0 2 Leaf Color (Munsell code 5 GY 4/8)			0 2 (Munsell code 5 GY 4/8)		
2 Leaf Sheath Pubescence (Rate on scale from 1=none to 9=peach fuzz)			4		
3 Marginal Waves (Rate on scale from 1=none to 9=many)			3		
5 Longitudinal Creases (Rate on scale from 1=none to 9=many)			5		
6. TASSEL:	Standard Deviation	Sample Size		Standard Deviation	Sample Size
* 5. 4 Number of Primary Lateral Branches	0.071	20	4. 9	1.434	220
3 3. 4 Branch Angle from Central Spike	1.980	20	3 5. 1	6.369	220
* 3 6. 7 cm Tassel Length (from top leaf collar to tassel tip)	1.980	20	3 0. 1	3.955	220
4. 6 Pollen Shed (Rate on scale from 0=male sterile to 9=heavy shed)			4. 2		
0 5 Anther Color (Munsell code 2.5 GY 8/6)			0 5 (Munsell code 2.5 GY 8/6)		
0 2 Glume Color (Munsell code 5 GY 4/8)			0 2 (Munsell code 5 GY 4/8)		
1 Bar Glumes (Glume Bands): 1=Absent 2=Present			1		
7a. EAR (Unhusked Data):					
* 1 4 Silk Color (3 days after emergence) (Munsell code 2.5 R 5/8)			0 5 (Munsell code 2.5 GY 8/6)		
0 2 Fresh Husk Color (25 days after 50% silking) (Munsell code 5 GY 4/8)			0 2 (Munsell code 5 GY 4/8)		
2 1 Dry Husk Color (65 days after 50% Silking) (Munsell code 2.5 Y 8/4)			2 1 (Munsell code 2.5 Y 8/4)		
* 3 Position of Ear at Dry Husk Stage: 1=Upright 2=Horizontal 3=Pendent			1		
4 Husk Tightness (Rate on scale from 1=very loose to 9=very tight)			8		
1 Husk Extension (at harvest): 1=Short (ears exposed) 2=Medium (<8 cm) 3=Long (8-10 cm beyond ear tip) 4=Very Long (>10 cm)			2		
7b. EAR (Husked Ear Data):	Standard Deviation	Sample Size		Standard Deviation	Sample Size
* 1 3. 2 cm Ear Length	1.201	10	1 5. 2	0.803	110
* 3 4. 7 mm Ear Diameter at mid-point	1.038	10	3 6. 6	1.355	110
0 8 0. 9 gm Ear Weight	14.053	20	0 8 5. 0	14.139	220
* 1 3. 0 Number of Kernel Rows	0.825	10	1 3. 5	0.719	110
2 Kernel Rows: 1=Indistinct 2=Distinct			2		
2 Row Alignment: 1=Straight 2=Slightly Curved 3=Spiral			2		
1 9. 4 cm Shank Length	0.741	20	1 2. 4	1.325	220
2 Ear Taper: 1=Slight 2=Average 3=Extreme			2		
Application Variety Data			Standard Inbred Data		

Note: Use chart on first page to choose color codes for color traits.

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Application Variety Data	Page 3		Standard Inbred Data		
8. KERNEL (Dried):	Standard Deviation	Sample Size		Standard Deviation	Sample Size
0 9. 7 mm Kernel Length	0.346	10	0 9. 6	0.594	110
0 6. 8 mm Kernel Width	0.661	10	0 7. 7	0.703	110
0 4. 1 mm Kernel Thickness	0.346	10	0 4. 4	0.704	110
3 0. 7 % Round Kernels (Shape Grade)		500g	2 6. 5		500g
1 Aleurone Color Pattern: 1=Homozygous 2=Segregating			1		
(*) 1 9 Aleurone Color (Munsell code Lighter than 2.5 Y 9/2)			1 9 (Munsell code Lighter Than 2.5 Y 9/2)		
* 0 7 Hard Endosperm Color (Munsell code Lighter Than 2.5 Y 8/10)			0 7 (Munsell code Lighter Than 2.5 Y 8/10)		
* 0 3 Endosperm Type: 1=Sweet (su1) 2=Extra Sweet (sh2) 3=Normal Starch 4=High Amylose Starch 5=Waxy Starch 6=High Protein 7=High Lysine 8=Super Sweet (se) 9=High Oil 10=Other_____			0 3		
2 4. 7 gm Weight per 100 Kernels (unsized sample)	0.805	200 seeds	2 1. 6	3.698	2200 seeds

9. COB:	Standard Deviation	Sample Size		Standard Devaition	Sample Size
* 2 2. 3 mm Cob Diameter at mid-point	3.866	10	2 3. 2	1.472	110
1 4 Cob Color (Munsell code 5 R 3/8)			1 4 (Munsell code 5 R 3/8)		

10. DISEASE RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested; leave Race or Strain Options blank if polygenic):

A. Leaf Blights, Wilts, and Local Infection Diseases	
9 Anthracnose Leaf Blight (*Colletotrichum graminicola*)	7
_ Common Rust (*Puccinia sorghi*)	7
_ Common Smut (*Ustilago maydis*)	
7 Eyespot (*Kabatiella zeae*)	6
5 Goss's Wilt (*Clavibacter michiganense* spp. *nebraskense*)	5
3 Gray Leaf Spot (*Cercospora zeae-maydis*)	4
8 Helminthosporium Leaf Spot (*Bipolaris zeicola*) Race 2	8 Race 2
3 Northern Leaf Blight (*Exserohilum turcicum*) Race 1	3 Race 1
7 Southern Leaf Blight (*Bipolaris maydis*) Race 0	6 Race 0
_ Southern Rust (*Puccinia polysora*)	_
6 Stewart's Wilt (*Erwinia stewartii*)	_
_ Other (Specify) _____	_ _____
B. Systemic Diseases	
3 Corn Lethal Necrosis (MCMV and MDMV)	2
_ Head Smut (*Sphacelotheca reiliana*)	9
_ Maize Chlorotic Dwarf Virus (MCDV)	_
_ Maize Chlorotic Mottle Virus (MCMV)	_
_ Maize Dwarf Mosaic Virus (MDMV) Strain _____	_ Strain _____
_ Sorghum Downy Mildew of Corn (*Peronosclerospora sorghi*)	_
_ Other (Specify) _____	_ _____
C. Stalk Rots	
_ Anthracnose Stalk Rot (*Colletotrichum graminicola*)	_
_ Diplodia Stalk Rot (*Stenocarpella maydis*)	_
_ Fusarium Stalk Rot (*Fusarium moniliforme*)	_
_ Gibberella Stalk Rot (*Gibberella zeae*)	_
_ Other (Specify) _____	_ _____
D. Ear and Kernel Rots	
_ Aspergillus Ear and Kernel Rot (*Aspergillus flavus*)	_
_ Diplodia Ear Rot (*Stenocarpella maydis*)	_
_ Fusarium Ear and Kernel Rot (*Fusarium moniliforme*)	_
_ Gibberella Ear Rot (*Gibberella zeae*)	_
_ Other (Specify) _____	_ _____

Application Variety Data	Standard Inbred Data

Note: Use chart on first page to choose color codes for color traits.

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Application Variety Data	Page 4	Standard Inbred Data	
11. INSECT RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested):	Standard Deviation	Sample Size	Standard Deviation	Sample Size
_ Banks Grass Mite (*Oligonychus pratensis*)			_	
Corn Earworm (*Helicoverpa zea*)				
_ Leaf-Feeding			_	
Silk Feeding :				
_ _ _. _ mg larval wt.	_____	_____	_ _ _. _	_____	_____
_ Ear Damage			_	
_ Corn Leaf Aphid (*Rhopalosiphum maidis*)			_	
_ Corn Sap Beetle (*Carpophilus dimidiatus*)			_	
European Corn Borer (*Ostrinia nubilalis*)				
5 1st Generation (Typically Whorl Leaf Feeding)			5	
2 2nd Generation (Typically Leaf Sheath-Collar Feeding)			7	
Stalk Tunneling :				
_ _ _. _ cm tunneled/plant	_____	_____	_ _ _. _	_____	_____
Fall Armyworm (*Spodoptera frugiperda*)			_	
_ Leaf-Feeding			_	
Silk-Feeding :				
_ _ _. _ mg larval wt.	_____	_____	_ _ _. _	_____	_____
_ Maize Weevil (*Sitophilus zeamaize*)			_	
_ Northern Rootworm (*Diabrotica barberi*)			_	
_ Southern Rootworm (*Diabrotica undecimpunctata*)			_	
Southwestern Corn Borer (*Diatraea grandiosella*)				
_ Leaf Feeding			_	
Stalk Tunneling :				
_ _ _. _ cm tunneled/plant	_____	_____	_ _ _. _	_____	_____
_ Two-spotted Spider Mite (*Tetranychus urticae*)			_	
_ Western Rootworm (*Diabrotica virgifera virgifera*)			_	
_ Other (Specify) _____			_ _____	

12. AGRONOMIC TRAITS:	
6 Stay Green (at 65 days after anthesis) (Rate on a scale from 1=worst to 9=excellent.)	1
0 2. 4 % Dropped Ears (at 65 days after anthesis)	0 0. 2
0 0. 0 % Pre-anthesis Brittle Snapping	0 0. 0
0 0. 0 % Pre-anthesis Root Lodging	0 0. 2
0 0. 7 % Post-anthesis Root Lodging (at 65 days after anthesis)	0 0. 7
3 1 0 7. _4 Kg/ha Yield of Inbred Per Se (at 12-13% grain moisture)	2 3 7 2. 6

13. MOLECULAR MARKERS: (0=data unavailable; 1=data available but not supplied; 2=data supplied)

1 Isozymes 1 RFLP's _ RAPD's

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McGee, D.C. 1988. Maize Diseases. APS Press, St. Paul, MN. 150 pp.
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Stringfield, G.H. Maize Inbred Lines of Ohio. Ohio A.E.S., Bul. 831. 1959.
U.S. Department of Agriculture. 1936, 1937. Yearbook.

COMMENTS (eg. state how heat units were calculated, standard inbred seed source, and/or where data was collected. Continue in Exhibit D):

Heat Unit Calculation: GDU = $\frac{\text{Daily Max Temp (<=86°F) + Daily Min Temp (>=50°F)}}{2}$ - 50°F

- data collected for '87ATD2' occurred at 4 test locations over three years for a total sample size of 40 plants measured. Data was reported as means across years and locations. Data collected for 'CM105' also was reported as mean values across years and locations (5 years – 4 locations). Each of the aforementioned characteristics had a wide range of values due to spacial and temporal variation of the test contributing to the large standard deviation. Growing conditions (soil, climate, drought conditions, etc.) contributed significantly to influence the variability of the traits measured.

8

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
DEKALB Genetics Corporation		87ATD2

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*	5. TELEPHONE *(include area code)*	6. FAX *(include area code)*
3100 Sycamore Road DeKalb, IL 60115 U.S.A.	(815) 758-9281	(815) 758-3117
	7. PVPO NUMBER 00000291	

8. Does the applicant own all rights to the variety? *Mark an "X" in appropriate block.* If no, please explain. [X] YES [ ] NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? [X] YES [ ] NO
If no, give name of country

10. Is the applicant the original owner? [X] YES [ ] NO ***If no, please answer one of the following:***

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

[ ] YES [ ] NO **If no, give name of country**

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?

[ ] YES [ ] NO **If no, give name of country**

11. Additional explanation on ownership *(if needed, use reverse for extra space)*:

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.